

REMARKS

The title has been amended in conformance with the suggestions given by the Examiner in the last Office Action. The Abstract has also been completely re-written to both correct the spelling errors present in the original Abstract, and to better summarize the invention.

With respect to the rejection of the claims under 35 USC §103, applicant respectfully traverses the same. However, before the specific reasons for the traversal are set forth, a brief recap of the principal features and advantages of the invention will be given so that the basis of the traversal may be more fully appreciated.

Generally speaking, the invention is an improved webbing retractor of the type having a retracting shaft for retracting a webbing belt, for restraining an occupant; a lock mechanism which includes a annular lock gear with ratchet teeth being formed at an outer peripheral face of the lock gear and a lock plate engageable therewith to prevent rotation of the retracting shaft in a webbing pulling-out direction, a force limiter mechanism which includes a torsion bar having one end portion coupled to the retracting shaft, and a pretensioner mechanism which includes a sleeve coupled to the other end portion of the torsion bar, and which is structured to be able to forcibly rotate the retracting shaft in a webbing retracting direction via the sleeve. In contrast to the prior art, the sleeve of the pretensioner mechanism is provided integrally at an axial center portion of the lock gear of the lock mechanism, thereby advantageously reducing the number of parts and reducing the over-all size of the retractor. The invention is best seen in Figures 2 and 3. Note annular lock gear 70 with sleeve 72 integrally formed therein.

None of the references of record either discloses or suggests the webbing retractor defined in claim 1. All that the Nagata '528 patent discloses is a webbing retractor having a lock plate 206 (see Figure 27) that is essentially arc-shaped and which slides via cam action into the ratchet teeth 96A of a ratchet hole 96 formed in the leg plate of the frame 20 (see Figure 1, and column 21, lines 10-19). By contrast, claim 1 recites

“a lock gear with ratchet teeth being formed at an outer peripheral face of the lock gear and a lock plate disposed to be able to be engaged with the ratchet teeth of the lock gear,...”

Additionally, and even more importantly, the sleeve 78 (shown in Figure 14) is not “provided integrally at an axial center portion of the lock gear of the lock mechanism...”, as is specifically recited at the end of the claim. By contrast, the sleeve 78 and the lock plate 206 completely separate and discrete mechanical components, in direct contravention to the overall purpose of the invention, which is to advantageously reduce the number of parts and the over-all size of the retractor. For both of these reasons, claim 1 taken singly is clearly patentable over the Nagata ‘528 patent.

The Grabinski ‘694 patent is similarly irrelevant to the retractor defined in claim 1. Again, in contrast to the specifically recited “lock gear,” the locking member 14 is an arcuate plate that radially slides into engagement with ratchet teeth 16 disposed around the inner periphery of ring 21 (see Figures 1 and 3 and column 3, lines 44-53, and column 4, lines 11 and 12). Also, as is expressly recognized by the Examiner in the last Office Action, this reference is completely silent with respect to any sleeve associated with a pretensioner mechanism, much less the specifically recited “sleeve of [a] pretensioner mechanism ... provided integrally at an axial center portion of the lock gear of the lock mechanism.” In short, as there is no disclosure or suggestion of “a lock gear with ratchet teeth being formed at an outer peripheral face of the lock gear”, nor of a “sleeve of [a] pretensioner mechanism ... provided integrally at an axial center portion of the lock gear of the lock mechanism,” claim 1 is clearly patentable over the Grabinski ‘528 patent, taken singly.

Nor can claim 1 be rendered “obvious” under 35 USC over any tenable combination of the Nagata ‘528 and Grabinski ‘694 patents. Neither patent discloses or even remotely suggests either the recited “lock gear with ratchet teeth being formed at an outer peripheral face,” or the specifically recited “sleeve of [a] pretensioner mechanism ... provided integrally at an axial center portion of the lock gear of the lock mechanism.” Moreover, the retractor mechanism disclosed in both references is incompatible with the recited “sleeve of the pretensioner mechanism [that] is provided integrally at an axial center portion of the lock gear of the lock mechanism...”, since the arcuate lock plates in both mechanisms of the references moves radially during a locking operation, and since an integrally mounted sleeve “coupled to the other end portion of the torsion bar,...” cannot radially move during such a locking operation, as the torsion bar to which it is coupled to cannot radially move. Accordingly, claim 1 is patentable over any tenable combination of the Nagata ‘528 and Grabinski ‘694 patents.

Claim 2 is patentable by virtue of its dependency on claim 1.

Claim 3 includes all of the previously discussed limitations with respect to claim 1 and is therefore patentable for all the same reasons.

Claim 4 is dependent on claim 3 and is therefore patentable at least by reason of such dependency.

Claim 5 has all of the previously discussed limitations with respect to claim 1 and is therefore patentable for all the same reasons. Accordingly claim 5 is patentable.

New claims 6 and 7 are patentable not only for their dependency on claims 1 and 3, respectively, but for their more specific recitation of the structure of the lock gear that further distinguishes this component from the arcuate, radially moveable plates used in the Nagata '528 and Grabinski '694 patents. Claims 6 and 7 now recite a lock mechanism including

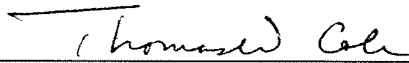
“an annular lock gear concentrically mounted with respect to an axis of rotation of said retracting shaft with ratchet teeth being formed at an outer annular peripheral face of the lock gear and a lock plate disposed to be able to be engaged with the ratchet teeth of the lock gear,”

Similarly, new claim 8 is patentable not only for its dependency on claim 5, but for its more specific recitation of the structure of the lock gear that further distinguishes this component from the arcuate, radially moveable plates used in the Nagata '528 and Grabinski '694 patents, i.e. that the lock gear of the lock mechanism “is annular and is concentrically mounted with respect to an axis of rotation of said retracting shaft.”

Now that all of the claims are believed to be patentable, the prompt issuance of a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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